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REV. H. W. BEECHER ON BLIGHT IN THE PEAR TREE.  
(Concluded.)

3. Cause of the blight.—The Indiana Horticultural Society, early in the summer of 1844, appointed a committee to collect and investigate facts on the Fire-Blight. While serving on this committee, and inquiring in all the pear growing regions, I learned that Reuben Reagan, of Putnam county, Ind., was in possession of much information, and supposed himself to have discovered the cause of this evil; and to him I am indebted for a first suggestion of the cause. Mr. Reagan has for more than twelve years past suspected that this disease originated in the fall previous to the summer on which it declares itself. During the last winter Mr. Reagan predicted the blight, as will be remembered by some of his acquaintance in Wayne co.; and in his pear orchards he marked the trees that would suffer and pointed to the spot which would be the seat of the disease; and his prognostications were strictly verified. After gathering from him all the information which a limited time would allow, I obtained from Aaron Alldredge of this place, a nurseryman of great skill, and possessed of careful, cautious habits of observation, much corroborative information; and particularly a tabular account of the blight for nine years past in his nursery and orchard.

The spring of 1843 opened early, but cold and wet, until the last of May. The summer was both dry and cool, and trees made very little growth of new wood. Toward autumn, however, the drought ceased, copious rains saturated the ground, and warm weather started all trees into vigorous, though late, growth. At this time, while we hoped for a long fall and late winter, on the contrary we were surprised by an early and sudden winter, and with unusual severity at the very beginning. In this region, much corn was ruined and more damaged; and hundreds of bushels of apples were caught on the trees and spoiled; one cultivator alone losing five hundred bushels. Caught in this early winter, what was the condition of fruit trees? They were making rapid growth, every part in a state of excitement, the wood unripe, the passages of ascent and descent implected with sap. In this condition, the fluids were suddenly frozen; the growth instantly checked; and the whole tree, from a state of great excitability, was, by one shock, rudely forced into a state of rest. Warm suns, for a time, followed severe nights. What would be the effect of this freezing and sudden thawing upon the fluids and their vessels? I have been able to find so little written upon vegetable morbid anatomy, (probably from the want of access to books,) that I can give but an imperfect account of the derangement produced upon the circulating fluids by congelation. We cannot state the specific changes produced by cold upon the ascending sap, or on the cambium, nor upon the elaborated descending current. There is reason to suppose that the two latter only suffer, and probably only the last. That freezing and thawing decomposes the coloring matter of plants is known; but what other decomposition, if any, is effected, I know not. The effect of congelation upon the descending sap of pear and apple trees, is to turn it to a viscid, unctuous state. It assumes a reddish, brown color; becomes black by exposure to the air; is poisonous to vegetables even when applied upon the leaf. Whether in some measure this follows all degrees of congelation, or only under certain conditions. I have no means of knowing.

The effect of freezing and thawing upon the tissues and sap vessels is better known. Congelation is accompanied with expansion; the tender vessels are either burst or lacerated; the excitability of the parts is impaired, or destroyed; the air is expelled from the æriferous cavities,

and forced into the passages for fluids; and lastly, the tubes for the conveyance of fluids are obstructed by a thickening of their sides.\* The fruit trees in the fall of 1843, were, then, brought into a morbid state—the sap thickened and diseased; the passages lacerated, obstructed, and probably, in many instances, burst. The sap, elaborated, and now passing down in an injured state, would descend slowly, by reason of its inspissation, the torpidity of the parts, and the injured condition of the vessels.—The grosser parts, naturally the most sluggish, would tend to lodge and gradually collect at the junction of fruit spurs, the forks of branches, or wherever the condition of the sap vessels favored a lodgement. In some cases, the passages are wholly obstructed; in others, only in part.

At length, the spring approaches. In early pruning, the cultivator will find in those trees which will ere long develop blight, that the knife is followed by an unctuous sap, and that the liber is of a greenish yellow color. These will be the first signs, and the practised eye may detect them long before a leaf is put forth.

When the season is advanced sufficiently to excite the tree to action, the sap will, as usual, ascend by the alburnum, which has, probably been but little injured; the leaf puts out, and no outward sign of disease appears; nor will it appear until the leaf prepares the downward current. May, June, and July, are the months when the growth is most rapid, and when the tree requires the most elaborated sap; and in these months, the blight is fully developed. When the descending fluid reaches the point where, in the previous fall, a total obstruction had taken place, it is as effectually stopped as if the branch were girdled. For, the sap which had lodged there, would, by the winds and sun, be entirely dried. This would not be the case if the sap was good and the vitality of the wood unimpaired; but where the sap and vessels are both diseased, the sun affects the branch on the tree just as it would if severed and lying on the ground. There will, therefore, be found on the tree, branches with spots where the bark is dead and shrunk away below the level of the surrounding bark; and at these points, the current downward is wholly stopped. Only the outward part, however, is dead, while the alburnum, or sap-wood, is but partially injured. Through the alburnum, then, the sap from the roots passes up, enters the leaf, and men are astonished to see a branch, seemingly dead in the middle, growing thriflily at its extremity. No insect-theory can account for this case; yet it is perfectly plain and simple, when we consider that there are two currents of sap, one of which may be destroyed,—and the other, for a limited time, go on. The blight, under this aspect, is nothing but *ringing* or *decorication* effected by diseased sap, destroying the parts in which it lodges, and then itself drying up. The branch will grow, fruit will set, and frequently become larger and finer flavored than usual.

But in a second class of cases, the downward current comes to a point where the diseased sap had affected only a partial lodgement. The vitality of the neighboring parts was preserved, and the diseased fluids have been undried by wind or sun, and remain more or less inspissated. The descending current meets and takes up more or less of this diseased matter, according to the particular condition of the sap. Wherever the elaborated sap passes, after touching this diseased region, it will carry its poison along with it, down the trunk, and by the lateral vessels, in toward the pith. We may suppose that a violence, which would destroy the health of the outer parts, would, to some degree, rupture the inner sap-vessels. By this, or by some unknown way, the diseased sap is taken into the inner, upward current, and goes into the

\*Lindley's Horticulture, 81, 82.

general circulation. If it be in a diluted state, or in small quantities, languor and decline will be the result; if in large quantities, and concentrated, the branch will die suddenly, and the odor of it will be that of frost-bitten vegetation. All the different degrees of mortality result from the quantity and quality of the diseased sap which is taken into circulation. In conclusion, then, where, in one class of cases, the seculent matter was, in the fall, so virulent as to destroy the parts where it lodged and was then dried by exposure to wind and sun, the branch above will live, even through the summer, but perish the next winter; and the spring afterwards, standing bare amid green branches, the cultivator may suppose the branch to have blighted that spring, although the cause of death was seated eighteen months before. When, in the other class of cases, the diseased sap is less virulent in the fall, but probably growing worse through the spring, a worse blight ensues, and a more sudden mortality.

I will mention some proofs of the truth of this explanation.

1. The two great blight years throughout this region, 1832 and 1844, were preceded by a summer and fall such as I have described. In the autumns of both 1831 and 1843, the orchards were overtaken by a sudden freeze while in a fresh-growing state; and in both cases the consequence was excessive destruction the ensuing spring and summer.

2. In consequence of this diagnosis, it has been found practicable to predict the blight six months before its development. The statement of this fact, on paper, may seem a small measure of proof; but it would weigh much with any candid man to be told by an experienced nurseryman, this is such a fall as will make blight; to be taken during the winter into the orchard and told, this tree has been struck at the junction of these branches; that tree is not at all affected; this tree will die entirely the next season; this tree will go first on this side, &c., and to find, afterwards the prediction verified.

3. This leads me to state separately the fact, that, after such a fall, blighted trees may be ascertained during the process of late winter or early spring pruning.

In pruning before the sap begins to rise freely, no sap should follow the knife in a healthy tree. But in trees which have been affected with blight a sticky, viscid sap exudes from the wound.

4. Trees which ripen their wood and leaves early are seldom affected. This ought to elicit careful observation; for, if found true, it will be an important element in determining the value of varieties of the pear in the middle and western States, where the late and warm autumns render orchards more liable to winter-blight than N. E. orchards. An Orange Bergamot, grafted upon an apple stock, had about run out; it made a small and feeble growth, and cast its leaves in the summer of '43, long before frost. It escaped the blight entirely; while young trees, and of the same kind (I believe) standing about it, and growing vigorously till they freeze, perished the next season. I have before me a list of more than fifty varieties, growing in the orchard of Aaron Alldredge, of this place, and their history since 1836; and so far as it can be ascertained, late-growing varieties are the ones in every case subject to blight; and of those which have always escaped, the most part are known to ripen leaf and wood early.

5. Wherever artificial causes have either produced or prevented a growth so late as to be overtaken by a freeze, blight has, respectively, been felt or avoided. Out of 200 pear trees, only four escaped in 1832, in the orchard of Mr. Reagan. These four had, the previous spring, been transplanted and had made little or no growth during summer or fall. If however they had recovered themselves, during the summer so as to grow in the autumn,



transplanting would have had just the other effect, as was the case in a row of pear trees transplanted by Mr. Alldridge, in 1843. They stood still through the summer and made growth in the fall, were frozen, and in 1844 manifested severe blight. Mr. Alldridge's orchard affords another instructive fact. Having a row of the St. Michael pear (of which any cultivator might have been proud) standing close by his stable, he was accustomed, in the summer of '43, to draw out, now and then, manure about them, to force their growth. Under this stimulus, they were making excessive growth, when winter-struck. Of all his orchard, they suffered, the ensuing summer, the most severely. Of twenty-two trees, twelve were affected by the blight, and eight entirely killed. Of seventeen trees of the Bell pear, eleven suffered, but none were killed. All in this region know the vigorous habit of this tree. Of eight Crassane Bergamot, (a late grower) five were affected and two killed. In an orchard of 325 trees of 79 varieties, one in seven blighted, 25 were totally destroyed. Although a minute observation was not made on each tree, yet as a general fact, those which suffered were trees of a full habit and of a late growth.

6. Mr. White, a nurseryman near Mooresville, Morgan county, Ia., in an orchard of from 150 to 200 trees, had not a single case of the blight in the year 1844; though all around him its ravages were felt. What were the facts in this case? His orchard is planted on a mould-like piece of ground; is high, of a sandy, gravelly soil; earlier by a week than nursery soils in this country; and in the summer of 1843 his trees grew through the summer; wound up and shed their leaves early in the fall, and during the warm spell made no second growth. The orchard, then, that escaped, was one on such a soil as ensured an early growth, so that the winter fell upon ripened wood.

7. It may be objected that if the blight began in the new and growing wood, it would appear there; whereas the seat of the evil, i. e. the place where the bark is diseased or dead is lower down and on old wood. Certainly, it should be; for the returning sap falls some ways down before it effects a lodgement.

8. It may be said that spring-frosts might produce this disease. But in the spring of 1834, in the last of May, after the forest trees were in full leaf, there came frost so severe as to cut every leaf; and to this day the dead tops of the beech attest the power of the frost. But no blight occurred that year in orchard, garden, or nursery.

9. It may be asked why forest-trees do not suffer. To some extent they do. But usually the dense shade preserves the moisture of the soil, and favors an equal growth during the spring and summer; so that the excitability of the tree is spent before autumn, and it is going to rest when frosts strike it.

10. It may be enquired why fall-growing shrubs are not always blighted, since many kinds are invariably caught by the frost in a growing state.

I reply, first, that we are not to say that every tree or shrub suffers from cold in the same manner. We assert it of fruit-trees because it has been observed; it must be asserted of other trees only when ascertained.

I reply more particularly, that a mere frost is not supposed to do the injury. The conditions under which blight is supposed to originate are, a growing state of the tree, a sudden freeze, and sudden thawing.

We would here add that many things are yet to be ascertained before this theory can be considered as settled; as, the actual state of the sap after congelation, ascertained by experiment; the condition of sap-vessels, as ascertained by dissection: whether the congelation, or the thawing, or both, produced the mischief; whether the character of the season following the fall-injury, may not materially modify the malignancy of the disease; seasons that are hot, moist and cloudy, propagating the evil; and others dry, and cool, restraining growth and the disease. It is to be hoped that these points will be carefully investigated, not by conjecture, but by scientific processes.

11. We have heard it objected, that, trees grafted in the spring, blight in the graft during the summer. If the stock had been affected in the fall, blight would arise from it; if the scion had, in common with the tree from which it was cut, been injured, blight must arise from it.

Blight is frequently caused in the nursery; and the cultivator, who has brought trees from a distance, and with much expense, has scarcely planted them before they show blight and die.

12. It is objected, that while only a single branch is at first affected, the evil is imparted to the whole tree; not

only to the wood of the last year, but to the old branches. I reply, that if a single branch only should be affected by fall-frost, and be so severely affected as to become a repository of much malignant fluid, it might gradually enter the system of the whole tree, through the circulation. This fact shows why cutting is a partial remedy; every diseased branch removed, removes so much poison; it shows also why cutting from below the seat of the disease (as if to fall below the haunt of a supposed insect) is beneficial. The farther the cut is made from that point where the sap has clogged the passages, the less of it will remain to enter the circulation.

13. Trees of great vigor of constitution, in whose system but little poison exists, may succeed, after a while in rejecting the evil, and recover. Where much enters the system, the tree must die; and with a suddenness proportioned to the amount of poison circulated.

14. A rich and dry soil would be likely to promote early growth, and the tree would finish its work in time; but a rich and moist soil, by forcing the growth, would prepare the tree for blight: so that rich soils may prevent or prepare for the blight, and the difference will be, the difference of the respective soils in producing an early instead of a late growth.

IV. Remedy.—So long as the blight was believed to be of insect-origin, it appeared totally irremediable. If the foregoing reasoning be found correct, it will be plain that the scourge can only be occasional; that it may be in a degree prevented; and to some extent remedied where it exists.

1. We should begin by selecting for pear orchards a warm, light, rich, dry and early soil. This will secure an early growth and ripe wood, before winter sets in.

2. So soon as observation has determined what kinds are naturally early-growers and early-ripeners of wood, such should be selected; as they will be least likely to come under those conditions in which blight occurs.

3. Wherever orchards are already planted; or where a choice in soils cannot be had, the cultivator may know by the last of August or September, whether a full-growth is to be expected. To prevent it, I suggest immediate root-pruning. This will benefit the tree, at any rate; and will probably, by immediately restraining growth, prevent blight.

4. Whenever blight has occurred, I know of no remedy but free and early cutting. In some cases it will remove all diseased matter; in some, it will alleviate only; but in bad blight, there is neither in this, nor, in any thing else that I am aware of, any remedy.

There are two additional subjects with which I shall close this paper:

1. This blight is not to be confounded with winter-killing. In the winter of either 1837 or 1838, in March a deep snow fell (in this region;) and was immediately followed by brilliant sun. Thousands of nursery trees perished in consequence, but without putting out leaves, or lingering. It is a familiar fact to orchardists that severe cold followed by warm suns produce a bursting of the bark along the trunk: but usually at the surface of the ground.

2. I call the attention of cultivators to the disease of the Peach tree, called "The Yellows." I have not spoken of it as the same disease as the blight in the pear and apple, only because I did not wish to embarrass this subject by too many issues. I will only say that it is the opinion of the most intelligent cultivators among us, that the yellows are nothing but the development of the blight according to the peculiar habits of the Peach Tree. I mention it that observation may be directed to the facts.

HENRY W. BEECHER.

From the South Western Farmer.

#### CULTIVATION OF MADDER.

New Orleans, Nov. 7, 1844.

DR. M. PHILIPS—Dear Doctor: During my perambulations in Mississippi the past summer, I met several gentlemen who asked me if I knew any thing about the cultivation of Madder; and as I have never been a practical agriculturist; though warmly attached to the occupation and ardently desiring to see it prosper, I was compelled to answer in the negative. The persons who propounded the interrogatories, did not even know of what part of the shrub this indispensable and valuable dye is made, although gentlemen of no ordinary intelligence—and as there are, doubtless, hundreds equally ignorant of the subject, I have thought that an extract from the Encyclopedia

Americana, touching its culture, manufacture, use, &c. might prove acceptable to the general reader of the South Western Farmer; particularly as the article of cotton, now exclusively relied on as an article of export in Mississippi, does not reward the planter for its production. I think no intelligent planter will now deny, that to rely in future exclusively on the article of cotton, will not be safe. Diversified agriculture to the south must be resorted to sooner or later, and the sooner it is commenced the better. Madder can, I think, be cultivated with profit—at least it is worthy a fair trial.

"Madder (*rabia*)—a genus of plants that has given its name to an extensive genus *galium* or *bedstraw*, which it closely in habit, but differs in the fruit, resembles which consist of two globular coreaceous berries. Fifteen species are known, of which only one inhabits the U. S. viz: the *R. Brownei*, which grows in Georgia, Florida, and the mountains of Jamaica. They are chiefly herbaceous, with rough branching stems, simple leaves arranged in whorls of four or six, and small flowers, which are usually disposed in terminal panicles. *R. inctorum*, or dyer's madder, is by far the most important of the genus, on account of the fine scarlet color afforded by the roots; and, indeed, this substance is essential to dyers and calico-printers, and their manufactures could not be carried on without it. In consequence it has become an important article of commerce, and is imported into Britain from Holland to a very great extent. Though cultivated in France for a century and a half, the supply is inadequate to the consumption in that country, and it is largely imported from the Levant, as well as Holland. Since the extension of manufactures in the United States, it has become an object of importance to introduce the culture of madder, and the subject has engaged the attention of several intelligent and public spirited individuals. The plant grows wild in many parts of the south of Europe. The root is perennial, long, creeping about as large as a quill, and red both without and within; from it arise several trailing, quadrangular stems, rough, branching, and two or three feet in length; the leaves are oblong oval, and prickly on the margin and mid-rib; the flowers are yellow and small, and are disposed in a panicle, at the extremity of the branches, and in the axils of the superior leaves; they make their appearance in June and July, and are succeeded by blackish berries. The most approved method of culture is from seed, and when this practice is pursued, certain precautions are requisite. As the madder of hot climates affords more coloring matter as well as a deeper tint, it is best for those who live in a northern region to import the seed from the south. Again, when the seed is too much dried, it may remain in the ground two or three years before it will germinate. On this account, it should be kept in a bed of moistened earth or sand, whenever there is any delay in sowing it. A light, rich, and deep soil is the most suitable, and it should be ploughed to the depth of two feet. The time of sowing is in February, or the beginning of March, for the northern, and in September or October for the more southern regions.

"This kind of crop requires but little care and attention. For the first year, it is only necessary to keep it free from the weeds, and to hoe it slightly once during the summer; for the second, it requires hoeing in the spring, in the summer, and again a little more deeply in the latter part of the season; the same is required for the third year, except that the earth is heaped about the base of the stems, in order to make it shoot with more vigor, and enlarge the roots. It is usual, before the second time of hoeing, to cut the stems for cattle, who are very fond of it; but this practice should not be repeated during the season, as recommended by some writers, or the roots will suffer. It is only at the end of the third year, that the crop is ready for harvesting; and if it is suffered to remain in the ground beyond this period, more is lost than gained. The roots, at this time, contain the greatest quantity of coloring matter, and have attained their full size. The best method of obtaining the roots, is the following: A trench is dug along the rows, to the depth of two feet, when, by loosening the earth about the roots, they may be taken up entire.—In a good soil, a single plant may yield forty pounds of the fresh roots, which diminish, in drying, six-sevenths or seven-eighths of their weight. The roots should be immediately washed, freed from all decayed parts, and dried as quick as possible, either by the sun or in kiln. It is well observed that madder is a hazardous crop, as from its yielding a return only after a lapse of three years, it is often impossible to foresee what will be the state of the market at that time. Another mode of cultivation is from



the roots, which are divided and set out. Twenty thousand plants may be allotted to an acre.

"In England, the madder from Holland is the most esteemed, and it is cultivated in that country to a very great extent. The process of pulverizing the roots, which is done by pounding or grinding, was for a long time, kept a secret by the Dutch. In the state of a powder, it is of an orange brown color, and is liable to become damp, and to be solid if kept in a moist place. Madder is used for dyeing woollen, silk, and also cotton goods, and the color is very lasting, and resists the action of the air and sun. Within a few years, a method has been discovered of rendering the red exceedingly brilliant, and approaching to purple. It also forms a first tint for several other shades of color, and, besides, has of late been successfully used by painters, and is found to yield a fine rose color. Madder also possesses the singular property of imparting its red color to the bones of those animals which have used it for food, and also to the milk of cows, if they have eaten of it freely.

"All the parts of the plant contain a yellow coloring matter, which by absorption of oxygen, becomes red; the root is, however, most productive in this coloring matter, and is the only part employed in dyeing. It is distinguished into three parts—the bark, the middle portion, and the interior wooden fibre. The bark contains the same coloring matter as the root, but mixed with much brown extractive matter, which degrades the hue. The bark may be separated in the milling, for it is more readily ground, and may thus be removed by the sieve. In the middle part of the root, which contains the finest coloring matter, and that in the largest quantity, there may be distinguished by the microscope, a great many shining red particles, dispersed among the fibres.—These constitute the rich dyeing material. The fibres contain a brown substance, similar to what is found in the bark.—The roots appear in commerce, dried and in powder. They are also sold fresh; in which state they yield finer colors, dye more, and give up their coloring matter with one third less water. According to experiments made in England, five pounds of fresh roots go as far as four of the dry ones; and it is estimated that eight pounds of fresh roots are reduced to one in drying; hence the great advantage of using the green roots becomes apparent. The roots produced in the south of France, when sold in the fresh state, are called *aligari*. They are reddish yellow, but when ground take a fine red tint. The madder of Germany and Holland are orange yellow, passing into brown red, having an acid and saccharine taste and a strong smell."

I omit the chemical properties given in the Encyclopedia, believing it not to be essential at the present time, and also, because you may not conveniently find room for it. The value of madder in this market, I find on enquiry to be 17 cents per pound; in New York it is worth about 15 cents.

I find in the same work a concise and succinct article on the cultivation of indigo, and if you have not the work, and desire a copy of the article in question, I will send it to you with great pleasure.

Yours, truly,

J. A. RUFF.

#### AWARD OF PREMIUMS BY THE FARM COMMITTEE.

To the President of the Prince George's (Md.) Agricultural Society:

SIR: The undersigned, a majority of the committee appointed to award premiums for the first, second and third best regulated and most highly improved farms in Prince George's county, after a laborious discharge of their duty, beg leave to report:

That they had visited and examined seven Farms or Plantations offered in competition. Although the labors have been arduous, yet your committee have been much gratified in their visits to all the farms. They embrace this occasion to say that they have elicited much useful information in the discharge of the duties assigned them. In consequence of the general good management and uniform neatness which pervaded the farms of all the competitors, it was difficult to decide where to bestow the praise of superior merit. Your committee being of opinion that great benefit would be experienced by farmers if they were in the habit of keeping a day-book or diary, in which should be noted the particulars of all their agricultural proceedings, determined as a rule of action, that, where all other things were equal, they would award the premiums to those competitors who excelled in this particular. They, therefore, award the highest premium to Oak Lodge

Plantation, containing six hundred and fifty-four acres, owned by *Clement Hill, Esq.*—The second premium to the Laurel farm, containing three hundred acres, owned by *Col. Horace Capron*; and the third to the Eglington Plantation, containing three hundred acres, owned by *Walter W. W. Bowie, Esq.*

It is but justice to Mr. Bowie to state, that the statistical account of his farming operations was the most perfect system of book-keeping presented to the view of the committee, and they cannot too strongly urge upon the planters of this county the great utility of a rigid observance of this practice.

The committee were greatly pleased with the exhibition of the other Farms, and were particularly struck with the great improvements upon Mount Calvert, owned by *Captain Brookes*, who has a splendid estate, and who, by the evidences offered in every aspect presented by the plantation, proves his superior management, his industry, skill, and great ability to manage a large and magnificent estate.

Mr. *William R. Barker's* plantation manifests great skill, industry, economy, and an increased amount of labor bestowed in a few years, to the great improvement of his land on a large scale.

Mr. *James Somervell's* plantation exhibits great improvement by the application of manure and marl; which substance, through his skill, is proven to be a great fertilizer in the improvement of land.—He, therefore, deserves great praise for his energy in proving to his neighbors the value of this hidden manure.

Mr. *Robert C. Brooke's* plantation exhibits great attention to his interest, application to business, and industrious habits in the owner. The crop which he made the past season particularly struck the attention of the committee—his tobacco was considered very superior, and decidedly the most beautiful that they had the pleasure of looking at during their progress thro' the county. All of which is respectfully submitted.

JOHN D. BOWLING,  
SAMUEL L. BROOKE,  
ROBERT GHISELIN.

EXPERIMENT WITH GUANO.—I had plowed one acre of greensward about the first of August, divided it into equal parts, quantity and quality, as near as could be.—On the 31st of August, on one half I spread 51 bushels unleached ashes—on the other half I sowed broadcast 250 lbs. guano—then sowed turnip seed broadcast, through and through; then harrowed all in, going through and through without regard to the division. In two weeks the line of division was perfectly preceptible to the eye 100 rods distant. From that part on which the guano was sowed, I gathered 113 bushels turnips. On the part ashed, I gathered only 43 bushels. The ashed turnips were gathered 4 or 5 days later than the guanoed.

51 bush. ashes at 1s \$8 50, produced 43 bush. turnips;  
252 lbs. guano 3 cents, \$7 50, " 113 bush. turnips.

W. P. CLEVELAND.

[New London paper.]

#### CULTURE OF HYACINTHS.

The season for growing Hyacinths is at hand, and some remarks may be of use to the lovers of that sweet flower. Select firm, round bulks; they are always the soundest and not so liable to damp off when placed in pots or glasses.

When they are placed in glasses take care that the water does not touch the bulk: put them in a dark place that is rather warm, or, which is better, wrap them all over the glass and bulk in old flannel and keep them in a warm place until the roots are an inch long at least. Some recommend that the glasses should be dark, but that is of little consequence provided the place in which the bulbs are set to root is dark.

The reason for this very important rule is that the roots should always be formed before leaves; otherwise when the latter begin to grow they have nothing to feed them. Nature is most careful about this, as we may see when a seed begins to germinate. But people generally place their bulbs at once into a glass of water, place it in the window or on the mantle piece, where light has free access, and the consequence is that roots which dislike light will not come, while leaves love the light and rush forward to enjoy it. Then follows a long cluster of foliage and a top heavy plant, which when it does flower, if it ever

gets so far, falls over every time it is disturbed. Get plenty roots first, and foliage and flowers will take care of themselves.

The reason why the bulb should not touch the water is, that if the plant is slow in growing, the organizable matter of the bulb is distended with fluid before it can decompose it, and so becomes putrid, when it communicates disease in all directions by virtue of its contagious properties. On the contrary, if the roots are active and the leaves are beginning to grow, what water is taken up is immediately converted into some of the matter that Hyacinths feed on. After roots have made their appearance, water may be allowed to reach the bulb; but not sooner. When the leaves are green and the plant in a good growing state, a piece of charcoal may be put into the water. It will prevent the water from becoming putrid, and besides act as a manure.

None of those precautions can, however, be of any avail, unless the hyacinths are kept close to the light continually from the time when the leaves are first turned green. Thus, and thus only, will a healthy growth be preserved and a fine, vigorous head of flowers insured.

When Hyacinths or other bulbous roots are grown in pots, the compost required is one third sand, one third common garden mould. Place the bulb about one inch in the soil, and water sparingly at first, but after the flower stems begin to shew, give abundance of water in the saucers.

[Newark Daily Adver.]

#### REMEDIES FOR DISEASES OF CATTLE.

**Colic.**—The best remedy is 1 pint of linseed oil, mixed with 1-2 oz. laudanum

**Diarrhœa.**—Give half an ounce of powdered catechu, and 10 grains of powdered opium, in a little gruel.

**Hove or Hoven.**—Use the elastic tube; as a preventive, let them be well supplied with common salt, and restrained from rapid feeding when first feeding on rank grass or clover.

**Mange.**—Half a pound of black brimstone, quarter of a pint of turpentine, one pint of train oil. Mix them together, and rub the mixture well in over the affected parts.

**Milk Fever or Garget.**—Two ounces of brimstone, two ounces of diapente, one ounce of cummin seed powdered, one ounce of powdered nitrate. Give this daily in a little gruel, and well rub the udder with a little goose-grease.

**Murrain.**—Half a pound of salts, two ounces of bruised coriander seed, one ounce of gentian powder; give these in a little water.

Poisons swallowed by oxen are commonly the yew, the water dropwort, and the common and the water hemlock; one and a half pints of linseed oil is the best remedy.

**Purge in Poisoning.**—Either one pound of salts in a quart of water gruel, or a pint to a pint and a half of linseed oil.

**Sprains.**—Embrocation; one ounce of sweet oil, four ounces of spirits of hartshorn, half an ounce of oil of thyme.

**Sting of the Adder or Slow-worm.**—Apply immediately strong spirits of hartshorn. For sting of bees, apply chalk or whitening mixed with vinegar.

**To take Flim from a Horse's Eye.**—Blow loaf sugar and a little salt into the inflamed eye, and in most cases it will be relieved. Sasafra buds pounded, and put in water, to stand till it becomes nearly as thick as cream, applied to the eye, is an excellent remedy for inflammation.

**To relieve Colic in Horses.**—Rub spirits of turpentine on the breast of the horse; and if he be drenched with it he will be relieved. Horses should never be put to severe work on a full stomach; more horses are hurt by hard driving after a full feed, than by a full feed after hard driving.—*English Far. Journal.*

**Smoking Hams.**—We are assured by an intelligent farmer that hams are very effectually preserved from the attacks of the fly, while their quality is not at all injured, by throwing red pepper upon the fire in the smoke house, during the latter part of the operation.

**Value of Irrigation.**—A small field of poor and almost valueless land in Scotland being irrigated, the second year the burthen on an imperial acre being weighed, it was found to have yielded 9,680 lbs. of well dried hay.—*Am. Agriculturalist.*



## THE AMERICAN FARMER.

PUBLISHED BY SAMUEL SANDS.

**LARGE CROPS OF GRAIN.**—At the recent meeting of the Monroe Co. N. Y. Agricultural Society, the second premium for the best two acres of *Wheat*, there being no competition, was awarded to Mr. McGonegal. The product as will be seen by Mr. McGonegal's statement, which we append, was 45  $\frac{1}{2}$  bushels of wheat per acre. The two acres measured, was part of a fifty acre field—the variety of wheat—the Red Chaff Bald. We direct the attention of the reader to the facts which are developed by Mr. McGonegal's statement, in regard to the character of his land, the manure applied, and the manner of preparing the soil, for the seed. The land is sandy loam; had had no manure except plaster and clover for ten years, except the droppings and voidings of his cattle for a short time before he ploughed, the which he turned in to eat down his clover. So far as manuring was concerned there was nothing very extraordinary, either in the quantity or kind,—for nothing is more common with wheat growers than to sow upon a clover-ley previously plastered; but there may have been some virtue in the three plowings, to which he subjected the soil—nay, it may have been the thorough pulverization which it received, that caused the large product.

## Statement of Mr. McGonegal's Wheat Crop.

The kind of soil on which my crop of wheat was grown, is a sandy loam. The previous crop was wheat, which I harvested two years before and seeded with clover in the spring before harvesting. The next summer, after the clover began to head, I turned in my cattle, and soon after commenced plowing the lot which has about fifty acres in it; that part measured off was plowed about the middle of June. About the first of August harrowed over well; cross plowed the last of August; plowed again the second week in September, and sowed the 11th and 12th of September. There has not been any manure drawn on for ten years, except plaster, which I sowed on the clover in the spring before plowing. I sowed about one bushel and eight qts. per acre of the Red Chaff Bald variety; limed before sowing. Harvested some of the last days in August, which was cut with a sickle, bound and put up in three or four days, and drawn into the barn and thrashed the fore part of September, and measured. The expense I cannot come at very exactly, as it was plowed with the rest of the field each time.

Plowing three times,	\$5 20
Harrowing,	2 63
2 $\frac{1}{2}$ bushels of Seed,	2 25
Reaping, binding and setting up,	4 00
Drawing in,	2 00
Thrashing and cleaning,	7 00

Whole expense, \$23 63

I certify that the above is a true and correct statement according to the best of my knowledge.

JOHN MCGONEGAL.

**Corn.**—Mr. Rufus Beckwith received the first premium for the best acre of Corn—product 126 bushels of shelled corn. It grew on a dark gravelly loam, approximating to black sand. The preceding crop was wheat, without manure; 2 years previously seeded with timothy and pastured two years. The acre of corn was manured with 30 loads of barn-yard manure. The ground was ploughed 8 or 10 inches deep, and thoroughly harrowed. The corn was planted in drills 3  $\frac{1}{2}$  feet apart, the plants 12 to 18 in. apart. The seed was the large 8 rowed variety. The first working was with the Cultivator, the second and last was with the plough, ploughing two furrows between the drills. Besides the Corn, Mr. Beckwith raised on the same ground 20 cart loads of Pumpkins. The whole expense of manure, seed and labor of culture, Mr. Beckwith estimates at \$15.

Mr. John McGonegal received the second premium for the second best crop of corn. He raised 85 13-56ths bushels on an acre.

**Oats.**—Mr. Adin Manly received the first premium for the best acre of oats. He raised on the acre 87  $\frac{1}{2}$  bushels. The soil was clay loam. The previous crop corn, which was manured with 10 loads of barn-yard manure. The oat crop received 12 loads of the same kind of manure. The ground was ploughed once and harrowed. The oats, when sowed, was harrowed in by two harrowings. Four and a half bushels of seed was sown on the acre. The land was ploughed in April, but was not sown until the following month. The entire cost of manure, seed, culture, harvesting and thrashing, is estimated at \$11 12  $\frac{1}{2}$ .

Mr. Manly, although he did not gorge the oat plants by an excess of food, appears not to have been alarmed at the thought that if he gave them any they would run to straw and yield him no kernels. This doctrine, though true in the abstract, like the depletive system of some Doctors we wot of, is often carried too far. Neither man, nor ox, nor grain can be successfully grown, unless a continuous supply of nourishment be given to answer the demands of their respective wants and natures, and we do hold it, that he who expects a good crop from a poor field, has credulity enough to be a follower of Joe Smith or Parson Miller. With us, the custom is too common, to sow oats upon the worst field on the Farm; to give the plants nothing to eat, and denounce oats as a worthless crop, because it could not exactly feed exclusively on air. Air, by the bye, is an admirable constituent in the food of plants, and is indispensable to their vigorous health, but like saw-dust pudding, is but an indifferent thing to sustain life, when taken alone. The Chamelion may live, look slick, and grow fat, on such diet—for as Naturalists say, it is his nature so to do; but the vegetable world, like Sir John, delight in something more substantial, and in its absence incontinently sigh for the good Dame of Eastcheap. Bad as it is, it has always appeared to us that there have been too much dread among farmers of over feeding small grain crops, and that in their anxiety to avoid the evil of too much straw, they fell upon that other and worse evil of too little grain. In saying this we do not wish to be considered the advocate of heavy manuring, with coarse manure, for wheat, barley, rye and oats; but we do think it is a fallacy to think that either will grow and bear luxuriant crops of grain, unless they be each reasonably accommodated with diet of some kind susceptible of digestion.

The facts detailed above are gathered from the Genesee Farmer.

## PRODUCT OF AYRSHIRE COWS.

A correspondent of the American Agriculturist writing from Edinburgh, gives an account of his visits to several dairies in Ayrshire. At one owned by Mr. John Tennant where there were 90 cows kept, the average product of milk per day, at the height of the season, was estimated at 30 English pints. The average product of butter per year was 170 lbs., at another, the annual product of butter on the best low-land pasture was, per cow, 240 lbs. of Butter: on poorer highland pasture, 180 lbs. The annual product of cheese, per cow, was from 350 to 400 lbs.

Having thus spoken of the product of the Ayrshire Dairies, it will be opportune to give the following, showing the product of American dairies:

**GOOD YIELD OF BUTTER.**—We have often urged upon farmers, the importance of giving more attention to their dairies, so as to increase the quantity, and improve the quality of their butter and cheese. Two thirds of the dairymen we verily believe, do not make more than one hundred and twenty-five lbs. of butter per cow, while many, we have no doubt fall short of that quantity. We have often expressed the opinion that with a good selection of cows, and good care, from one hundred and fifty, to two hundred lbs. per cow, may be made. We now have the pleasure of stating that Mr. Brainerd of Western, in this county, has this season, made from sixteen cows, one hundred and seventy lbs. per cow, besides a supply

for a family of six, and much of the time seven or eight persons during the whole year. This would probably have increased the quantity, to between one hundred and ninety, and two hundred lbs. This too without any extra feed than hay and grass, except about one hundred and fifty pumpkins this fall. At the prices for which the butter sold, (most of it 12  $\frac{1}{2}$  cents, and the remainder 14 cents,) the average proceeds amount to twenty-one dollars and forty cents. This after raising two calves, and taking into account the pork made from the dairy slops, is surely a good return for capital and labor invested. Who has done better?—*Central N. Y. Farmer.*

**Rat Catchers.**—The Coon is said to be superior to either cats or terriers, as rat catchers.

## ENGLISH FARMING.—Large crops of Wheat—working of Cows—economy of manure, and improvement of the soil.

—Professor Colman, in his European tour mentions an instance where a man had supported himself, wife and son, from two acres of land, for which he paid a rent of \$45.60; and in the course of seven years, saved enough from the produce of his two acres to purchase two acres at \$144 to \$192 per acre. In another case, six acres under spade cultivation, is stated to have given an average of 52 bushels of wheat per acre. Another witness brought before the Parliamentary committee, testified that on the estate of Lord Howard, Barbot Hall, Yorkshire, twenty-eight bushels of wheat had been obtained from a quarter of an acre; being at the rate of 112 bushels per acre. Mr. Colman thinks, however, that the accuracy of this statement may be considered doubtful.

An instance is mentioned where a man in Sussex, John Piper, who occupied four acres, and kept two cows, worked one of the cows in a cart, by which he makes an annual saving of \$24. Notwithstanding the cow is worked, she makes eight pounds of butter per week, besides furnishing some milk for the family."

Great pains are taken in all cases to save the manure. Nothing is wasted. The animals are stalled, and only turned into a yard a few hours a day for exercise. Brick or stone tanks, well cemented, are sunk near the cow stables and pigsties, for the reception of all the liquid manure. "The contents of these tanks, on becoming full, are pumped into a small cart with a sprinkling box attached to it, like that used for watering streets in cities, and distributed over the crops, always with the greatest advantage, and with effects immediately perceptible." All which Mr. Colman saw, convinced him that there is no necessity of impoverishing the soil, but that under the right management, it will keep itself in condition, and be ever improving.

## BLACK SEA SPRING WHEAT.

**Messrs. Gaylord and Tucker:**—Believing it will be beneficial to the public to have this wheat reserved for seed, I make this communication. It is believed, in this quarter, to be superior for seed to any other wheat. First, because it requires but about two thirds the usual quantity to sow an acre,—2nd, it yields better in a dry season. If it lodges, it generally fills well—but its great superiority consists in its hardness to withstand the rust.

Our thresher, Mr. G. Farnum, of this town, says he threshed in Cornwall, about 500 bushels of this wheat, of 1842 crop, and did not have a rusty bundle; whereas, three fourths of the other wheat was very materially damaged by rust. Of the 1843 crop, he threshed about 3000 bushels of this wheat, and found its yield superior to any other spring wheat; and also, that it filled well where it lodged.

I learn that the wheat raised in Cornwall, came from a peck of seed, procured near Boston in 1839 or '40. Some suppose there are two kinds, and that the red chaff is the best. It is dark colored, hard and heavy. Until our millers learned how to grind it, it was supposed to make inferior flour.



Homer Wright, of this town, got 44 bushels from 1½ bushels of seed; Mr. Elmore, 26 from 1 bushel; Orval Smith, 29 from 1 bushel of seed; Hiram Foster, of Whitney, 42 from 1½ bushels; B. Simonds, 41 from 1½ bushels of seed.

I am much surprised that our farmers should send so much of this wheat to the mill to be ground, considering the estimation in which it is held, and that there is not more of it than ought to be sown in two counties.

CLARK RICH.

Shoreham, Vt., 1844.—Cult.

[We know nothing of the character of the Black Sea Spring Wheat—but from our experience in Italian Spring Wheat, we should hardly think it a desirable crop in the middle or Southern states. It may, and doubtless does, suit the Eastern States, where, from the intensity of the winters, the fall sown wheat suffer, so much from winter killing.

We tried the Italian two years—the first, its yield was good, but the second it turned out an utter failure.—*Ed. Amer. Farmer.*]

Our correspondent "Virginia," as well as our readers generally, will feel grateful to Dr. Darlington, for the valuable information contained in the annexed communication upon a subject of the utmost importance to every man interested in the agriculture of this and the neighboring States. So far from any excuse being necessary, we assure the Dr. that we always deem it a rich treat for our readers, whenever we are enabled to present them through our columns, with any thing from his able pen.

#### ON THE USE OF LIME.

For the American Farmer.

Mr. Editor: I observe, in the *Farmer* of the 8th inst. that your correspondent, "Virginia," is desirous of an answer to several questions respecting the use of *Lime* in Agriculture. I do not profess to be able to answer those questions satisfactorily. To some of them I can only reply by giving an *opinion*. The truth must be ascertained by experience, and careful observation; but I will cheerfully submit such remarks as my opportunities have enabled me to offer, and shall be glad if they may tend to elicit the better information of others.

The first enquiry is—"What effect would be produced by the application of lime on the surface of limestone lands?"

To this I may reply, that the farmers in the limestone valley of Chester county are in the practice of applying lime freely on their land, and find it productive of the best effects,—especially in promoting the growth of the valuable *Grasses*. Its benefit to the *grain* crops, is not so striking; but, in Agriculture, a good *grass turf* is of primary importance—particularly in a grazing country,—and wherever there is such a *turf*, the grain crops are rarely defective. It is remarkable, that the soil which overlies the limestone rock has been found to bear the heaviest dressings of lime. The farmers, in our limestone valley, have frequently applied as much as 100, and 110, bushels to the acre, with apparent benefit, but latterly, some of the most intelligent observers among them have expressed the opinion, in which I decidedly concur, that smaller quantities (say 40 or 50 bushels to the acre,) repeated at proper intervals, are attended with better results. I believe a moderate *top dressing* of lime, (equally distributed in a state of fine powder,) every three or four years, is more beneficial than a heavy dose once in six or eight years; and this, I think, is true in all kinds of soil. It appears, then, that lime may be, and has been, used with advantage, on limestone lands.

"Virginia" next enquires whether, by successive cropping, lime is extracted from the *surface* soil, "where the substratum is limestone?"

To this I can only reply, that such seems to be the fact,—or at least, that experience has demonstrated the benefit of repeated applications of it, on limestone lands. The true rationale of the process, I must leave to the agricultural chemists.

As to the inquiry, whether "sufficient lime is kept in the surface soil (of limestone lands,) by the action of the weather, and the process of cultivation?" I am equally

unable to give a satisfactory answer. The same experience, just referred to, would seem to indicate that the surface soil does not derive "sufficient lime," from the processes mentioned, to keep it in the best condition of which it is susceptible; yet it is certain that limestone lands are generally of a better quality, and less readily exhausted, than most others. Hence I should infer, that they do derive some benefit from the rock beneath.

The next inquiry is, "Would the application of it (i. e. the limestone rock,) in a powdered state, to the surface of such lands be beneficial?" I am not enabled, by experiment, to answer this question; but I am informed it has been tried, without much benefit. In its native state, limestone is not so soluble in water, as when reduced to a calx, by fire,—neither is it so well fitted to act upon the dead vegetable matter. In fact, I should judge powdered limestone to be nearly inert, and of very little value to vegetation, compared with *quick lime* in a pulverized state. This, however, is mere *opinion*. I have no doubt that *shells*, finely powdered, might be applied to land with advantage, for they contain a portion of animal matter; but, probably, even they would be more beneficial in a calcined state. While I am giving *opinions*, I may as well remark, that I think it of importance to apply quicklime in a minutely divided, or pulverized state—such as it assumes when first slacked. It can be not only more readily and equally distributed, in that state, but must necessarily, I think, be more effective. I believe a large portion of its benefits are often lost, by careless farmers permitting it to get too wet, by long exposure, before it is spread. It then forms into little insoluble masses, and cannot possibly have the same effect as if minutely and evenly distributed. All bodies, to act chemically, must be minutely divided, and they must be applied where they are to act.

Excuse these hasty remarks. My object was merely to comply, as well as I could, with the request of your correspondent. If you think them worth the space they will occupy in your valuable paper, they are at your service.

W. D.

West Chester, Pa. Jan. 10, 1845.

#### MORE ABOUT CHARCOAL.

"Professor Liebig has said, charcoal previously heated to redness, will absorb ninety times its volume of ammoniacal gas. I have no doubt of it. Mark the words in italics, 'previously heated to redness.' Charcoal has also great affinity to carbonic acid, but it has a greater affinity for water than for any of the gases; when filled with either carbonic acid or ammoniacal gas, upon being made wet this gas will be liberated and the pores of the charcoal become filled with water. Now suppose from exposure to the atmosphere, the press of the charcoal should be filled with carbonic acid. Then place it over a stream of ammoniacal gas, the ammonia could not enter, because it could not displace the carbonic acid; but suppose the farmer should use charcoal in his manure heaps instead of plaster, and it should be in a condition to absorb the ammoniacal gas, the character of the ammonia is still the same: charcoal does not deprive it of its volatility; consequently, the moment it is disengaged by the charcoal becoming wet, there is danger of a loss of all the ammonia.

I have made the foregoing plain remarks in regard to charcoal, because I perceive from the agricultural periodicals it is becoming more fashionable, and I fear many fatal mistakes will be the result.

In conclusion, I must again say to all, use ground plaster liberally in your stables, cow sheds, manure and compost heaps, and the result cannot be doubtful.

I remain, truly, yours,

GEO. WOODFIN.

The writer of the above is alarmed without reason—Charcoal which has all its carbonic acid and water expelled by heat will absorb more ammoniacal gas or any volatile substance than it will when wet, or when it contains carbonic acid. But it is equally true that charcoal in a filtering cistern, for instance—after it has been saturated with water will absorb the ammonia contained in rain water, and render such water fit for culinary purposes. It is also true that the wetting of charcoal in an apparatus for rectifying whiskey, and making pure spirits, will not prevent its absorbing the volatile oils and gases, which impart to unrectified whiskey, its offensive smell and taste.

I do not at this moment recollect the precise difference in the quantity of ammonia, which dry and wet charcoal absorb. Nor have I at hand a standard work that treats of this matter. But my impression is, that a pound of

wet coal will take up twice as much of the volatile elements of manure as a pound of wet gypsum. Let me not be understood as objecting to the use of plaster in the manner proposed in the article quoted above. I only wish to correct the remarks which lead the reader to believe, that as soon as coal becomes saturated with water, (for which it has a strong affinity) it is incapable of holding any fertilizing element.

It has been suggested to me that the quantity of charcoal which I have recommended to be used, is so large that many will not incur the expense of purchasing it. As this is truly an important matter, I beg to remark to the readers of the *N. G. Farmer*, that so small a quantity as 25 bushels per acre, which need not cost over \$1.60, well pulverised and applied to a wheat field, will greatly benefit the crop; altho' in France they use about three times that quantity with great success.

D. L.

New Genesee Farmer.

"D. L." is Dr. Lee, of Western New York, one of the most enlightened agricultural writers in the country. His opinion, therefore upon the subject at issue between him and Mr. Woodfin, is entitled to the most profound consideration.

We have had much practical experience of the effect of charcoal in the rectification of spirits, and can vouch for the accuracy of Dr. Lee upon that point.

In the year 1817 our attention was accidentally called to the valuable properties of charcoal, as an anti-septic agent. We had put up two barrels of beef for family use, and being young and inexperienced in such domestic affairs, we either did not use salt enough, or the salt was not good. Be the cause of the failure whatever it may have been, it is very certain, that the beef became so tainted, before we had used the fourth of the first barrel, that it was unfit for use. By mistake a half bushel of freshly burned charcoal was thrown into the barrel of beef which had been partly used, and there remained for several weeks before we discovered the accident. Having occasion to use it, in looking for it we found it embedded in the brine of the beef. On taking it out, much to our surprise we found that the beef had been, through the action of the charcoal, altogether deprived of its taint smell, and was restored to sweetness. Reasoning with ourselves, we concluded, that if it could cure one barrel, it could cure the other, and had the Beef taken out, then placing a layer of charcoal at the bottom, we placed a layer of beef on the top of it, and so continued, until we had repacked our barrel of beef. The effect was as we presumed it would be—the beef was restored to sweetness.

Now if, as Mr. Woodfin argues, charcoal on becoming wet, loses its affinity for ammonia, it is evident that that used in our second barrel of beef could not have effected its restoration to soundness, as it was through its power of appropriating the ammonia to itself, which had been generated by the decay of the beef, that it arrested the process of decomposition which was going on, and restored it to sweetness.

Its power may be decreased by being wet, but the result of its action on our second barrel of beef demonstrated most clearly, that, if decreased, it possessed very strong affinity, and was capable still of performing most excellent service. With this strong fact before us, we do think that Mr. Woodfin has arrived at an erroneous conclusion, and he may very readily satisfy himself, by putting a piece of tainted meat into a pot and boiling it with charcoal. If he should do so, he will find when the meat is done, that it will be as sweet as a sweet apple—The result of this simple experiment would convince him, that however water may lessen, it does not destroy the capacity of charcoal for absorbing ammonia, and having thus satisfied himself, he cannot fail to conclude, that the compost heap, or the field, has no more valuable agent than charcoal as an economiser of the nutrition of plants.—*Editor American Farmer.*



## CORN STALK SUGAR AND MOLASSES.

ATHENS, NOVEMBER 28TH, 1844.

To the Editors of the Tennessee State Agriculturalist:

GENTLEMEN:—Believing that the manufacture of Corn Stalk Sugar and Molasses, is forthwith susceptible of being made a matter of the greatest importance, it is deemed expedient to enter into details that perhaps will be considered unnecessarily minute, by some who are not yet apprised of its great value. For it is certainly true, that if the necessary care and attention be not bestowed on the whole process from the last, an inferior article will be the consequence, and which may induce the experimentalist to abandon the business in despair and disgust. Year before last, having met with the essay of Webb on our subject, it was concluded to give this new project a trial sufficient to enable me to determine, whether or not it was capable of being made an object worthy of serious attention. The result was decidedly favorable, and accordingly last year, a more efficient apparatus was provided, with the intention of making a sufficient quantity of sugar and molasses, to exempt me from the necessity of purchasing those articles; no inconsiderable affair, where a large family has to be supplied at a cost of twelve and a half cents per lb. for the first, and a dollar a gallon for the last named article, especially in a part of the country where money is so scarce, that it requires profound sagacity, deeply laid and successful stratagem, and vigorous exertion to obtain a sufficiency to enable one to live decently, and to pay all their dues at the proper time. The object proposed was to a great extent realised, but not being apprised of the quantity that would be necessary to last a whole year, it turned out that we had not made quite enough, our stock becoming exhausted about the middle of April; and from that time until the latter part of July it became necessary to resume the purchasing of sugar.

During the last season, however, an ample supply has been made, rather over 100 gallons, equivalent to a hoghead of sugar. This quantity could have been extended to 8 or 10 barrels, if a sufficient supply of stalks had been provided; for by planting the corn at various times the molasses season can be prolonged from the middle of July, to middle of October. Four or five other mills were in operation, in this region, during the past summer, at which were variously made 10 to 60 gallons. Now what has been accomplished by a few individuals, can be done by every farmer in the State; and if this should prove to be the case, it is evident, that no trivial revolution in its commercial transactions, would be the result. Assuredly it is as absurd and unnecessary for a farmer to purchase sugar and molasses, as it would be to import his soap, candles, or any other article of ordinary domestic production. The mill should be made with three rollers, at least 20 in inches diameter, and 26 inches long; 4 inches above the cogs. The cogs 4 inches wide, and 18 inches below the cogs. The necks ought to be about 3 inches long, and 6 in diameter with a smooth iron band fitted on to prevent their wearing. The stem of the middle roller should be 12 or 13 in diameter, and 5 or 6 feet long, the neck to be received in a corresponding hole in a transverse beam resting on two posts, about 25 feet asunder. This arrangement will cause the mill to run more equally than if there was no support above. There should also be some contrivance of keys and wedges, with which to adjust the outside to the middle roller. This, however, must be left to the ingenuity of the builder of the mill, as it cannot easily be made intelligible on paper. For the sake of convenience, it may be proper to assign to the cornstalk two stages in its growth, as the most suitable for making molasses and sugar, to wit: 1st. when just in roasting ears; 2d. when it has passed out of roasting ear stage and become too hard for cooking, and thence to the commencement of fodder pulling. The syrup made from the stalks during the first or roasting ear stage, if boiled moderately thick, will very much resemble honey both in appearance and taste. In the second stage, which I consider on the whole the proper one, or when the corn has become too hard for cooking, the syrup will more than nearly resemble that made from the sugar cane, and is the age of the stalk at which the syrup is most disposed to granulate. As you approach fodder pulling time, the molasses will become darker and not so agreeable to the taste. In the first or roasting ear stage, it requires 10 gallons of juice to make one of syrup. In the second stage or two weeks later, 8 gallons will do the same. One hundred moderately large stalks will

make 1 gallon of syrup boiled to the point of granulation, that is when on taking a small portion (as warm as it can be borne) between the thumb and fore finger, it can be drawn into a thread an inch or inch and a half long. One gallon of such syrup is equivalent to 10 lbs. of brown sugar for any of the purposes for which that article is commonly used; stalks from which the ears have been pulled in their embryo state, will afford one fourth more syrup, than will those on which the ears have been permitted to arrive at their full growth. Small stalks will yield about the same quantity of juice as large ones; that is, the product of a given weight of either will be about the same. Large stalks, however, are preferable to small ones, as it requires nearly as much time to strip and prepare for the mill the latter as the former. As regards the speedy granulation of syrup the same difficulties have been experienced as heretofore.\* It is however, satisfactorily ascertained, that if properly made and placed in shallow vessels, and in a moderately warm situation it will granulate, if sufficient time be allowed it for that purpose. Last season a small portion was set aside, and five months elapsed before the chrysalization was completed; leaving, however, little or no molasses.

At present, I have several parcels which since last August, have been slowly undergoing this process; some of them now ready for draining; and doubtless in a few weeks more the whole will be completed. My apparatus for boiling consists of a large iron kettle, and also one of copper, made from the lower part of a second hand still, the nozzle being removed and the aperture closed by a piece of copper rivited over it: an iron band nearly an inch wide surrounds the top and rivited; the edge of the copper being turned over it, a broad lip is formed in front for the convenience of pouring out the syrup; two ears are welded on the band, in an opposite direction with holes in them to receive two large rings, for the purpose of lifting it off the furnace; there ought also to be one behind. This kettle is about three feet in diameter, and nearly one in depth, and holds about 35 gallons, and answers admirably, as the boiling can be finished in it, about one third the time that is required in one of the ordinary depth. A shallow skimmer of tin about 8 inches by 6 with holes in the bottom, and rounding at the end fixed in a wooden handle, will be found far more convenient for skimming than the ladle in common use. It will expedite the business if the fodder be stripped off the stalks the evening previous to the morning when they are intended to be cut, and afterwards the whole of the sheaths or shucks (as they are called) about the joints must be carefully removed, and the stalks perfectly clean. It is all important that the juice be pressed out, and set to the boiling as speedily as possible after the stalks are cut; not more than two or three hours should elapse before this is done, for if the stalks are permitted to lie or the juice to stand longer than the time mentioned, fermentation will commence and infallibly injure the quality of the molasses.—As soon as a sufficient quantity of juice is received from the mill, it should be allowed to stand a few minutes for the coarser particles to subside, and then strained through a coarse cloth, and a table spoon full and a half of clear lime water added to each gallon of juice, and then poured into the kettle and carefully watched and skimmed during the whole process of boiling. When iron pots or kettles are used, it is absolutely necessary that they be entirely free from rust, as the smallest portion of this, would impart a dark color and ferruginous taste to the syrup, and also a dusky hue to coffee when used in that way. With the fixtures above mentioned, and one horse we made seven or eight gallons per day, but being in no hurry, generally ceased grinding about four o'clock in the afternoon, in order to finish boiling before night. By using two horses or extending the operations to some time after dark, ten gallons daily could have been easily made. The molasses thus produced has over and again been pronounced by numerous persons who have partaken of it, to be superior to the imported article; all without exception were fond of it, whilst among them were several who reject the use of the cane molasses altogether. It may not be amiss here to repeat a remark made in a former communication, to wit: That when intended to be used in coffee, the preferable and most convenient mode will be, to mix it with the coffee when first made and boil all together. It is probable that the influence of prejudice

\*It is evident that superabundant mucilage in the juice prevents the speedy granulation of the syrup, and it is hoped more mature experience will remove this and every other obstacle so to complete success.

will for some time prevent a general substitution of corn stalk sugar and molasses, for the corresponding article of Louisiana, and the West Indies, for there is something repulsive in the idea, that a product of the common corn stalk (an article with which we have been so familiar from our infancy) should come in competition with a similar one of the far-famed sugar cane, that comes from so great a distance and costs so much. And there is reason to fear that this opposition will be found to proceed in greatest force, from among the ladies, many of whom (with all due reference be it spoken) with characteristic ambition, pride and folly, appear much disposed to estimate a commodity not according to its intrinsic value, but precisely in the ratio of the distance from which it is brought, the difficulty with which it is procured, and the amount of money it may happen to cost.—In the view of the foregoing facts, it appears every way reasonable to believe, that before another year rolls round, a sufficient quantity of sugar and molasses can be made, to supply our own wants in that respect. Yes, if every farmer in 4 or 5 of our most populous counties, would each make only three or four barrels, it would probably amount to a greater quantity than is annually imported into the State. But will this be done? It may well be doubted, for it is a melancholy truth, that with a few exceptions there does not appear to exist among the farmers of Tennessee, especially those of East Tennessee, a much greater amount of agricultural and manufacturing intelligence, enterprise and industry, than one might reasonably expect to find in a colony of free negroes.

WILLIAM H. DEADRICK.

P. S. Persons desirous of further information on this subject, can find several interesting communications in relation to it, in the last Report of Mr. Ellsworth, Commissioner of Patents, amply confirming every thing I have advanced. Indeed without this additional testimony, I should not have written as confidently as I have done, lest otherwise I might perchance be honored with the suspicion of being an enthusiast on the subject. W. H. D.

AGRICULTURAL CHEMISTRY.—There is sufficient reason for supposition, that one of the principal causes which has operated in retarding the advance of agriculture, in this country, has been the almost universal neglect with which our agriculturists have treated the important science of chemistry. On the want of co-operation between the chemist and the farmer, Dr. Madden very justly remarks:—

Each has tried to move forward alone; and we aptly apply to them the well-known story of the lame and the blind, neither of whom alone could proceed with safety, but when united arm in arm, the defects of each were fully compensated for by the superior advantages of the other. Thus the farmer, from his knowledge of practice, is enabled to progress in any given direction; but, from his want of acquaintance with the fundamental principles of his art, may be justly considered blind; whereas the chemist, however clearly he may see the end to be attained, makes but a very lame progression, owing to his ignorance of practice. Let the two but consent to become mutually dependent, and, proceeding arm-in-arm, the assured of the well-practiced farmer will be guided in the right way by the clear sighted knowledge of the enlightened chemist.

Of all the sciences, there is none which can bring to the farmer more direct and efficient aid, than chemistry. It is indeed, to him, what the chart is to the mariner. In the selection of soils, and their management with reference to certain crops, some knowledge of the principles of this science, is utterly indispensable;—and in feeding stock, compounding manures and various other necessary vocations, of essential and primary consequence to the practical farmer, he can no more proceed judiciously, or safely, being ignorant of this science, than the blind man in the dark, on a mountain path.—Maine Cult.

Old Pickle for Pork.—Some persons place a high value on old pickle for preserving pork, even as high as a dollar a gallon, as they find that it possesses superior properties for keeping the meat sweet and good. It being already charged with the juices of meat, it will not so readily extract them from a fresh lot with which it comes in contact. They who value this article so highly, saving it for six or seven years, will put down pork in the hottest weather in summer, with very little addition of salt, and it keeps perfectly pure. The pickle should not be scalded, but strained to take out the sediment or other matter.



From the N. E. Farmer.

**Does Guano improve the nutritive properties of Grain?**

Mr. Breck—Sir—In an address I delivered last year in New York, on Agriculture, I stated that corn grown with guano, was considerably more nutritious for animals than that grown without. This was founded on my own observation, and confirmed by an analysis of seed, made by Mr. A. A. Hayes of Roxbury. Shortly after its delivery, I observed in an English periodical, that the results of an experiment on wheat with guano, could not be given, because the birds had eaten a very large proportion of the grain, leaving the neighboring fields of wheat untouched. This I considered at the time as a confirmation of my doctrine, founded on the natural instinct of the birds in choosing the food most palatable, or best adapted for nourishment; and altho' I mentioned the circumstance to several friends at the time, I did not think a single instance was of sufficient consequence.

From the agricultural part of the London "Gardener's Chronicle," of 9th Nov. 1844, I make the following extracts from a communication of Mr. T. J. Clitheroe, on the cultivation of wheat on the same land for successive years. Where guano was used, he says:

"The crop promised to be a good one, but was much plundered by the birds."

In another place he says:

"Those patches in No. 1 and 2 which had the guano put on them, suffered so much from the depredations of the birds, that no account was taken of them separately."

I think this part of the subject now assumes sufficient importance for the farmer to try an experiment with cattle and poultry, in order to see if corn grown with guano, is better food for them than that grown without.

Yours, truly,

J. E. TESCHEMACHER.

Dec. 24, 1844.

**Tobacco smoke for Lice on Cattle.**—Mr. M. W. Marsh, of West Cambridge, tells us he finds tobacco smoke the easiest and best remedy for these vermin on cattle. He procures a sheet iron canister, in form something like the nose of a tin tunnel. Into this he puts dry tobacco, then a coal or two of fire, then inserts a bellows nose and blows the smoke through. The smoke is not allowed to come out in a single volume, but it issues through two or three small tubes in the canister, which tubes are placed among the hair where the vermin harbor.

Mr. M. says an instrument of this kind may be made for 50 cents, and with it he can smoke 50 cattle in a short day. He says he finds a second smoking sometimes necessary, and that is sufficient.

**Sheep ticks** are more effectually destroyed by tobacco smoke than by any other means that we have heard of. This is the season for ridding your flocks of ticks.—*Bos. Ploughman.*

**To Extract the Essential Oil from any flower.**—Take any flowers you like which stratify with common sea salt in a clear earthen glazed pot. When thus filled to the top, cover it well and carry it to the cellar. Forty days afterwards, put a crape over a pan and empty the whole to strain the essence from the flowers by pressure. Bottle the essence, and expose it four or five weeks to the sun, and evening dews to purify. One drop of that essence is enough to scent a whole quart of water.

**Aromatic Beer.**—Take 20 drops of the oil of spruce, 20 do. wintergreen, 20 do. sassafras. Pour 2 quarts of boiling water upon the oils, then add 8 quarts of cold water. 1½ pints of yeast. Let it stand two hours, and then bottle.

**Broom Corn.**—The seed is excellent to fatten Sheep.—Albert Hibbard, Esq. of North Hadley, tells us he makes use of all the seed of his broom corn to fatten sheep—that they are very fond of it and will fatten better on this than on Indian corn. Broom corn is raised in great quantities in the river towns, where the brooms are made up and distributed to all quarters of the country.

We have often raised the corn for the sake of the brush, but we have never made much account of the seed, though hens are always fond of it. Hogs too will eat it, though we think it has seldom been converted to meal for hogs. Mr. Hibbard thinks the broom corn seed more valuable for sheep than oats or any grain, pound for pound.—*Boston Plough.*

**PERUVIAN GUANO.**

The balance of the cargo of Peruvian Guano received by the undersigned per ship "Orpheus" from the Chincha Islands, for account of the Peruvian Guano company, is offered at the following prices.

Under one ton	3 cts. per lb.
From 1 to 5 tons,	\$60 per 2240 lbs.
5 to 10 "	\$55 "
Over 10 tons,	\$50 "

This cargo is warranted to be pure and of the best quality. For sale in bags (of about 130 lbs. each) in small quantities by David C. Harris, opposite the museum, Baltimore street, or in parcels of one ton and upwards by

SAML. K. GEORGE,

No. 2 German st., Baltimore,

Agent for the Peruvian Guano company.

**GROUND PLASTER.**

The subscriber is now engaged in the grinding of Plaster of Paris for agricultural purposes, and would respectfully inform Farmers and dealers that he is prepared to furnish it of the best quality at the lowest market price, deliverable in any part of the city, or on board Vessels free of expense, application to be made at the Union Plaster Mill, near the Glass House, or at the office No. 6 Bowly's Wharf, corner Wood street.

P. S. CHAPPELL, or,  
WM. L. HOPKINS, Agent.**AGRICULTURAL IMPLEMENTS.**

J. S. EASTMAN, at No. 36 West Pratt st. about half a square west of the Baltimore and Ohio rail road depot, has on hand a great variety of Plows and Plow Castings, and other Farming Implements at wholesale and retail, as follows, viz. his newly patented Cleary self-sharpening plows of 7 different sizes, (and one large left hand do) he has many testimonies to show the superior merits of this implement.

Also—Gideon Davis' improved ploughs, of all sizes, wrought and cast shares, do do. Connecticut improved, a superior article for light soil; Evans' reverse point ploughs, with cast shares only; Wyman's No. O. self-sharpeners, various bar-share and coulter ploughs and superior side ploughs, etc. etc. Also, corn and tobacco Cultivators, wheat fans, cylindrical straw cutters of various sizes, a superior article; lime carts, superior Pennsylvania made grain Cradles; small Burrstone Mills for driving by horse power or steam; Corn Shellers, Threshing Machines (and horse-powers for two or four horses) made very durable and to thresh clean. Bachelder's and Osgood's patent corn planters, etc. with a great variety of other implements made of the best materials and in the best manner. All the above are sold at reduced prices to suit the times. may 1

**TEN DOLLARS REWARD.**

The above reward will be paid for the delivery, to Dr. Woodside, at the Baltimore and Ohio rail road depot, of a fine DURHAM HEIFER, between two and three years old, of fine size and in good condition. This heifer was brought from Philadelphia on the steamboat, and escaped, it is supposed, from the boat after her arrival in Baltimore, on Saturday, the 19th of October last. Her color is principally white, but with spots of roan interspersed over the body, and a strawberry roan head and neck. She is very gentle, and had on, when lost, a leather halter, fastened together with iron rivets; and likewise a piece of new grass rope tied round the neck.

CHARLES B. CALVERT.

**PORTABLE TUBULAR STEAM GENERATOR.**

The undersigned successors to the late firm of Bentley, Randall & Co. are manufacturing, and have constantly on hand a full assortment of the above Boilers, which within the last few months have undergone many improvements: we can now with confidence recommend them for simplicity, strength, durability, economy in fuel, time, labor and room, to surpass any other Steam Generator now in use. They are equally well adapted to the Agriculturist for cooking food for cattle and hogs, the Dyer, Hatter and Tanner for heating liquors, to Manufacturers (both Cotton and Woollen) for heating their mills, boiling sizing, heating cylinders, &c., to Pork Butchers for heating water for scalding hogs and for rendering lard, to Tallow Chandlers for melting tallow by circulation of hot water (in a jacket,) to Public Houses and Institutions for cooking, washing and soap making, and for many other purposes, for all of which they are now in successful operation; the economy in fuel is almost incredible; we guarantee under all circumstances a saving of two thirds, and in many instances fully three fourths—numerous certificates from the very best of authority can be produced to substantiate the fact. We had the pleasure of receiving the premium for the best Steam Apparatus at the Agricultural Fair held at Govans-town in October 1843.

Manufactory, McCausland's old Brewery, Holliday st. near Pleasant st., Baltimore, Md.

Dec. 6. if

RANDALL &amp; CO.

**FARMERS! EXAMINE FOR YOURSELVES!**

The well selected stock of Implements belonging to JAMES HUEY & CO. No. 7 Bowly's Wharf, Baltimore. Our stock consists of a large lot of PLOUGHS, SHEARS, POINTS, and CULTIVATORS, which we will sell low to suit the times—among which rank the economical WILEY, and the MINOR & HORTON PLOUGH of the N. York composition metal and manufacture—the share has a double point and edge, equal to two shares and points. We keep on hand all kinds of PLOUGHS, premium CORN SHELLERS, HAY & STRAW CUTTERS, Corn & Cob CRUSHERS, Horse RAKES, Corn and Tobacco HOES. Farmers and Planters on the Eastern and Western Shores may send their orders with confidence, as they will be attended to with promptitude. We also keep GARDEN & FIELD SEEDS. Thankful for past favors, we hope to merit a continuance of the same. Agents for the above implements, S. L. STEER, Market st. near the corner of Fags, Baltimore E & W. BISHOP, Bel-air market, Baltimore. fe 28

**BALTIMORE MARKET, Jan. 13.**

Beef, Balt. mess,	9a	Butter, Glades, No. 1, 13
Do. do. No. 1, 7a		Do. do. 2, 7a11
Do. prime,	6a	Do. do. 3, 5a7
Pork, mess,	10a11	Do. Western 2, 6a
Do. No. 1	10	Do. do. 3, 5a6
Do. prime	9a	Lard, Balt. kegs, 1, a7
Do. cargo,	a	Do. do. 2, a7
Bacon, hams, Ba. lb	a7	Do. Western, 1, a6
Do. middlings, "	a5	Do. do. 2, 5a5
Do. shoulders, " 5a		Do. do. bls 1, 6a6
Do. ass'd, West. 4		Cheese, casks, 6
Do. hams,	5a7	Do. boxes, 5a8
Do. middlings,	a5	Do. extra, 12a15
Do. shoulders,	3a4	

**COTTON—**

Virginia,	9a10	Tennessee, lb.
Upland,	6a	Alabama, 11a12
Louisiana,	11a	Florida, 10a12
North Carolina,	10a11	Mississippi

**LUMBER—**

Georgia Flooring	12a15	Joists & Sc'ling, W.P. 7a10
S. Carolina do	10a12	Joists & Sc'ling, Y.P. 7a10
White Pine, pann	125a27	Shingles, W. P. 2a9
Common,	20a22	Shingles, ced'r, 3.00a9.00
Select Cullings,	14a16	Laths, sawed, 1.25a 1.75
Common do	8a10	Laths, split, 50a 1.00

**MOLASSES—**

Havana, 1st qu. gl	30a31	New Orleans	31a
Porto Rico,	29a	Guadaloupe & Mart	26a28
English Island,		Sugar House,	28a36

**SOAPS—**

Baltimore white,	12a14	North'n, br'n & yel. 3a4a
Brown & yell'w 4a5a		

**TOBACCO—**

Common	2 a 3	Yellow,	8 a10
Brown and red,	4 a 5	Fine yellow,	12a14
Ground leaf,	6 a 7	Virginia,	4 a 9
Fine red	6a 8	Rappahannock,	3 a
wrappery, suitable		Kentucky,	13 a11
for segars,	8a13	St. Domingo,	15 a38
Yellow and red,	7a10	Cuba,	

**PLASTER PARIS—**

Cargo, pr ton cash	2.75a	Ground per bbl.	1.12a
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**SUGARS—**

Hav. wh. 100lbs	9a10.50	St. Croix, 100lbs	7.00a8.00
Do. brown	a7.50	Brazil, white,	a
Porto Rico,	5.50a6.40	Do. brown,	
New Orleans,	5.55a	Lump, lb. c.	

**FLOUR—We quote**

Superfine How. st., from stores,	bl	\$4.12.
Do. City Mills,		4.12.
Do. Susquehanna,		
Rye, first		3.37a
Corn Meal, kiln dried, per bbl.		2.25
Do. per hhd.		11.75

**GRAIN—**

Wheat, white, p bu	90a100	Peas, black eye,	50a55
" best Va red	88a	Clover seed, store	\$4.37a
" ord. to pri. Md	75a88	Timothy do	2a2.25
Corn, white,	39a40	Flaxseed, rough st.	1.35
" yellow Md.	43a	Chop'd Rye, 100 lbs.	1.25
Rye, Md.	67a	Ship Stuff, bus.	20a
Oats, Md.	26a28	Brown Stuff,	15a
Beans,	110	Shorts, bushel,	10a

**FEATHERS—per lb.**

Havana,	7 a 8	Java, lb.	10 a12
P. Rico & Laguay,	5a6	Rio,	6a7a
St. Domingo,	5a 6	Triage,	3a4a

**CANDLES—**

Mould, common,	a10	Sperm,	30a31
Do. choice brands, 10,		Wax,	60a65
Dipped,	a 9		

**FOREIGN MARKETS.**—The following statements of the Liverpool Cotton Markets, are contradictory: they are taken from different New York papers.

**Liverpool, Dec. 5th.**—The sales since Friday amount to 30,000 bags, and of which 7000 were sold to-day. 7000 bags have been taken on speculation in the course of the week. In prices there is a further decline of 1-8d per lb.

**Liverpool Provision Market, Dec. 5.**—The Butter market quiet at an advance of 1s per cwt. Bacon meets only a moderate sale—Lard scarce and in request.

**Liverpool, Dec. 6.**—The trade in cotton has become more animated, and some disposition to speculate has appeared, but this step is yet injudicious. America can well supply us at low rates, and with a crop that many do not dare to estimate, and of which this country will receive its full share, we can only expect a very low range of quotations, and although the present prices may be raised for a time with the assistance of heavy speculation, yet the consequences will be such as we have before experienced, America will be enriched at the cost of the manufacturer and working population of this country, without any ultimate benefit to the speculators generally.

The N. Y. correspondent of the Phila. U. S. Gazette says: Our evening papers as well as the Herald, are all wrong respecting the Liverpool Cotton Market. I have seen the circulars of all the leading houses, and the following may be implicitly relied upon:

**Liverpool, Dec. 6th.**—Cotton—There was considerable animation in the market on the 4th, and 12,000 bales were sold. Yesterday 9000 bales were taken, 4000 of which were on speculation—prices are firm, with an upward tendency. Fair Cotton cannot now be purchased at 4d—it is held at 4 1-8d.

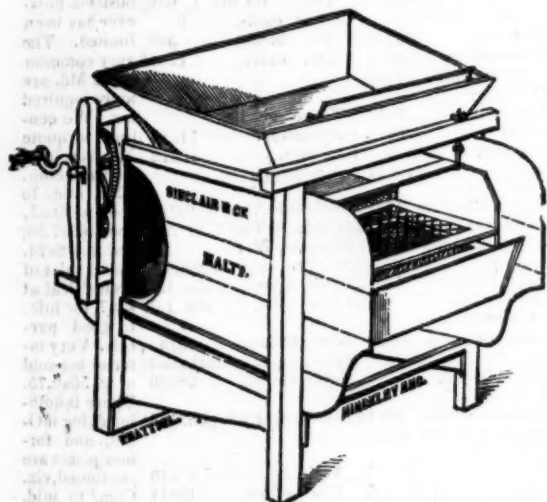
The circulars of some of the principal houses, state that an advance of 1-8d had been fully established.



# R. SINCLAIR, JR. & Co's. CATALOGUE FOR 1845.—(Continued.)

Orders for any article in the annexed catalogue will meet with prompt attention, addressed to S. SANDS, publisher of the American Farmer, or to R. Sinclair, Jr. & Co. Light st. wharf.

## RICE'S WINNOWING MILLS.



No. 1. \$25 00  
No. 2. 30 00

Rice's Winnowing Mills are probably not surpassed in this country for simplicity of construction, despatch in cleaning and perfection in which they leave the grain.

Watkin's Patent Fan, warranted to chaff 100 bushels wheat per hour, \$45 00

BOX DITTO.—A small compact mill, adapted for those who do not raise large crops of grain, \$18 00

## R. SINCLAIR, JR. & CO'S. PATENT CORN MILL.



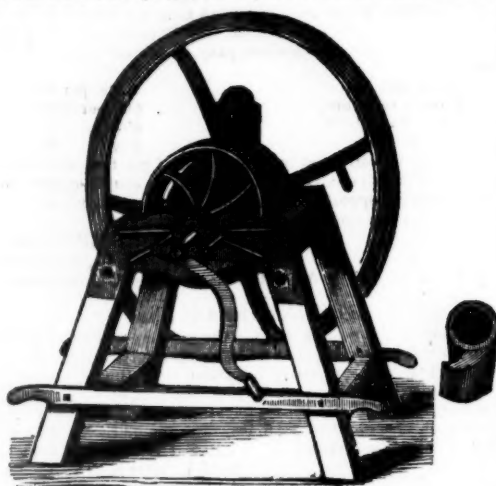
The above cut represents Sinclair & Co's new Corn Mill, which is admirably adapted for plantation use, or as a Maryland planter says of them, "every planter having this useful machine becomes his own miller." They grind coarse or fine meal with equal facility, perfection and despatch, at the rate of 24 or 3 bushels per hour.

When the screen is attached (as shown in the centre of the cut) and fine meal is required to be ground, it will be necessary to drive the Mill by horse-power, (say 2 horses); coarse meal for horses may be ground by 2 men with good success.

The grinding plates which are made of the hardest composition metal, will last about 2 years without renewing; after they are worn smooth new ones may be put on without difficulty. A feeder is attached to the axle which is intended to pass the grain into the plates at regular intervals. The feeder is important and obviates the difficulty and objection to Cast Iron Mills generally. Price, with one set extra plates, \$40

The feeder and grinding plate (as above) are represented separate from the mill.

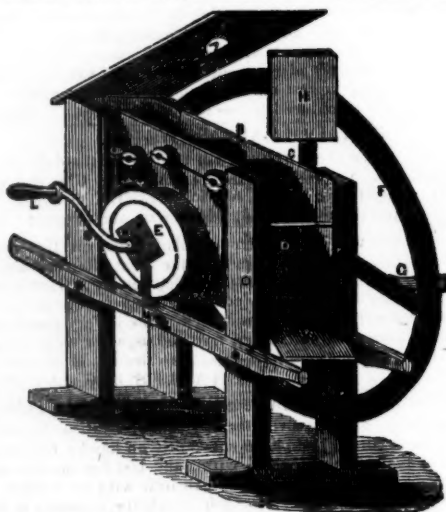
## SINCLAIR, JR. & CO'S CORN & COB CRUSHER.



The above cut represents Sinclair & Co's. Corn and Cob Crusher, which is admirably adapted for plantation use, the construction is very simple, compact, and not easily put out of order. The grinding plates are made of the hardest composition metal, which will last from two to three years. After they are worn smooth new plates may be substituted without difficulty; on the axle is attached a strong spiral knife, which cuts the cob in small pieces, preparatory to entering the plates. Price with one set extra plates \$30

The knife (as above); the grinding plates similar to that of the Mill.

## BALDWIN'S CORN AND COB CRUSHER.



This valuable machine is capable of grinding (by a light two horse power) 20 to 25 bushels of corn and cobs per hour, and can be regulated by a pinch screw to give coarse or fine at pleasure. It occupies a space of 4 by 2 feet, and is about 44 feet high. The first impression on the cob is made by two fluted cylinders, placed horizontally, and operate similar to the nuts of an apple mill grinder; these are intended merely to crush the cob; after this process it passes immediately through two finer fluted or ratched cylinders, and a cast iron concave, which last process leaves the article ground on an average as fine as a common early garden pea, the coarsest being as fine as a grain of flint corn, and the finest ground entirely into meal, \$65 00

## BALDWIN'S CORN SHELLER & CLEANER.

A horse power machine—separates the cob and chaff from the corn, and puts it in complete order for market by one operation. This machine received the highest premium at the late Baltimore Co. Fair, \$40 00 (Catalogue to be Continued.)

## FARM FOR SALE.

The advertiser will sell the Farm on which he now resides, situated in Baltimore county, about 30 miles north of the city, and about 4 miles from the Susquehanna rail road, containing 100 acres of land, about two-thirds of the same is under good cultivation, the balance is well timbered; the fields lay well to the sun, and are well watered; there are a number of excellent springs and a sufficiency of water for a mill; there is a quantity of good meadow, and much more can be made; also a variety of choice fruit; a stone Dwelling House, 26 by 36 feet, 3 stories high, a log barn with stables and a threshing floor; and other conveniences. The whole of this property can be procured at a low rate for cash, or for notes on interest with good security or by way of exchange for property in the city. Enquire at this office. ja 1

## WHITE TURKIES.

A few pairs for sale at \$3 per pair. Also for sale in the spring, several kinds of Fancy Fowls, &c.  
A pure bred CHINA SOW, about 1 year old, in fine order, at \$15.  
ja 15 at the office of the American Farmer.

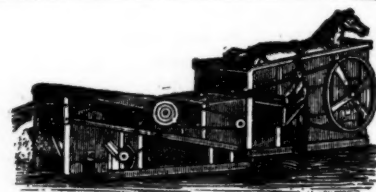
PRICE 100 DOLLARS.



Reaping machines simplified, and their durability very greatly increased, will cut as fast as any 1 made prior to 1841; two horses are geared abreast, and are relieved from the once objectionable weight, and the draught is very much diminished. The value of this late improvement has been tested by Wm. Butler and Jacob Staley, of Shepherdstown, Va. who if applied to will give it the highest character.

The large Reapers are made as usual at \$170—medium size will be made to order.

My Corn and Cob Crusher, so well known in the South, stands unrivalled—price \$25 to \$35.  
Baltimore, Jan. 7, 1845. JOBED HUSSEY. ja 9



WHITMAN'S THRASHING MACHINE & HORSE POWER DEPOT, No. 2 Eutaw st., opposite the Eutaw House, where the subscriber now offers for sale all his new improvements in the Thrashing-machine and Horse-power line, consisting in part of his new SEPARATOR, patented March 20th, 1844, which thrashes and cleans the grain at one operation, and is considered the greatest labor saving machine, and of the most value to the farmer of any machine ever invented in this country.

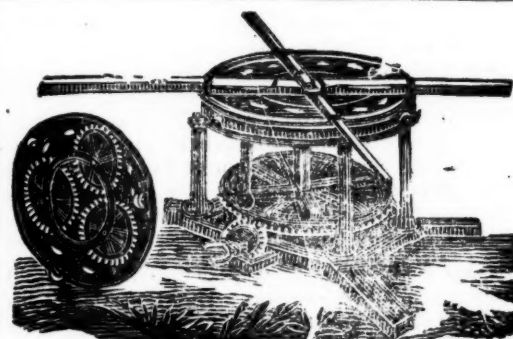
NEW STRAW CARRIERS—These machines thrash and separate the grain from the straw in a rapid and perfect manner, and are highly approved by all.

Improved CYLINDER THRASHERS—Warranted to thrash faster than any other kind of thrashers that can be produced.

Improved HORSE POWERS, on the rail-way principle, for one or two horses. These machines are durable, possess double the power of the common kind, and occupy about one eighth of the room. All of the above are made of the best materials, by experienced workmen, and warranted. I will furnish a man to go out with them and set them up in any part of this State, if desired.

As this is no humbug, all who feel an interest in agriculture are respectfully invited to call and examine for themselves.

All orders addressed to the subscriber, Baltimore city, will meet with prompt attention. EZRA WHITMAN, Jr. ja 17



## MARTINEAU'S IRON HORSE-POWER IMPROVED Made less liable to get out of order, and cheap to repair, and at less cost than any other machine.

The above cut represents this horse-power, for which the subscriber is proprietor of the patent-right for Maryland, Delaware and the Eastern Shore of Virginia; and he would most respectfully urge upon those wishing to obtain a horse power, to examine this before purchasing elsewhere; for beauty, compactness and durability it has never been surpassed.

Thrashing Machines, Wheat Fans Cultivators, Harrows and the common hand Corn Sheller constantly on hand, and for sale at the lowest prices.

Agricultural Implements of any peculiar model made to order at the shortest notice.

Castings for all kinds of ploughs, constantly on hand by the pound or ton. A liberal discount will be made to country merchants who purchase to sell again.

Mr. Hussey manufactures his reaping machines at this establishment. R. B. CHENOWETH, corner of Front & Ploughman sts. near Baltimore st. Bridge, or No. 20 Pratt street. Baltimore, mar 31, 1841